

IN THE CLAIMS

Pursuant to 37 CFR §121(c), the claim listing, including the text of the claims, will serve to replace all prior versions of the claims, in the application.

1 1. (previously presented) A plug, comprising:

2 a first base bearing a keyway providing a first electrical conductor and an orifice
3 spaced-apart from and separated by a mass of said plug from said keyway;

4 a second base separated by an axial length of said plug from said first base, said
5 second base disposed to support a cam, said mass being perforated by a plurality of radially
6 oriented apertures forming an array;

7 an exterior surface extending between and engaging said first base and said
8 second base;

9 a sidebar positioned between said first base and said second base to reciprocate
10 between a first location with said sidebar simultaneously engaging said plug and a cylinder
11 surrounding said plug, and a second location releasing said plug for relative to movement
12 between the cylinder and said plug;

13 a locking mechanism disposed within said apertures to move relative to said plug
14 in response to a key inserted into said keyway to accommodate reciprocation of said sidebar
15 relative to said plug and rotation of said plug relative to the cylinder when the key while
16 inserted into said keyway engages in a selected relation with said locking mechanism, and
17 obstructing said reciprocation absent said selected relation;

18 a second electrical conductor terminating with an electrical contact exposed to
19 an exterior of said first base through said orifice;

20 an electronic logic circuit borne by said plug while coupled to receive electrical
21 data signals via said first and second electrical conductors, and generating control signals in
22 dependence upon said electrical power and data signals; and

an electrical operator disposed within one of said apertures, said operator having a distal member travelling in dependence upon said control signals between a first position relative to said exterior surface obstructing said relative movement by engaging a detent protruding from the cylinder, and a second and different position relative to said exterior surface accommodating said relative movement.

2. (previously presented) The plug of claim 1, comprising said locking mechanism, logic circuit and electrical operator simultaneously experiencing said rotation relative to the cylinder whenever said plug rotates relative to the cylinder.

3. (previously presented) The plug of claim 1, comprising said locking mechanism, logic circuit and electrical operator being wholly within the cylinder and travelling with said plug whenever said plug moves relative to the cylinder.

4. (previously presented) The plug of claim 1, with said electrical operator maintaining said distal member within said plug with said distal member extended not beyond said exterior surface while said distal member is in said first position, and maintaining said distal member in concurrent engagement with said plug and with the detent while said distal member is in said first position.

5. (previously presented) The plug of claim 1, with said electrical operator maintaining said distal member within said plug with said distal member extending not beyond said exterior surface while said distal member is in said first position, and moving said distal member radially between relative to said exterior surface in dependence upon said control signals.

6. (previously presented) A lock, comprising:

a cylinder containing a hollow recess defining a longitudinal axis and a stationary

3 detent extending from said cylinder;

4 a plug bearing a plurality of open radially oriented apertures forming an array,
5 said plug being rotatable around said longitudinal axis while resident within said hollow recess,
6 said plug comprising:

7 a first base bearing a keyway providing a first electrical conductor and an
8 orifice spaced-apart from and separated by a mass of said plug from said keyway;

9 a second base separated by an axial length of said plug from said first
10 base, said second base disposed to support a cam;

11 an exterior surface extending between and engaging said first base and
12 said second base;

13 a sidebar positioned between said first base and said second base to create an
14 obstruction to relative movement between said cylinder and said plug;

15 a locking means disposed within said apertures to release an obstruction when the
16 key while inserted into said keyway engages in a selected relation with said locking means, and
17 to maintain said obstruction absent said selected relation;

18 a second electrical conductor terminating with an electrical contact exposed to
19 an exterior of said first base through said orifice;

20 an electronic logic circuit borne by said plug, coupled to receive electrical data
21 signals via said first and second electrical conductors, and generating control signals in
22 dependence upon said electrical power and data signals; and

23 an electrical operator borne by said plug, disposed within one of said apertures,
24 said operator having a distal member radially traveling along an axis transverse to said
25 longitudinal axis, in dependence upon said control signals between a first position relative to
26 said exterior surface by engaging said detent and thereby obstructing said movement in concert
27 with said locking device and a second and different position relative to said exterior surface
28 accommodating said movement.

1 7. (previously presented) The plug of claim 6, comprising said locking device, logic
2 circuit and electrical operator simultaneously experiencing said rotation relative to the cylinder
3 whenever said plug rotates relative to the cylinder.

1 8. (previously presented) The plug of claim 6, comprising said locking device, logic
2 circuit and electrical operator being wholly within the cylinder and travelling with said plug
3 whenever said plug moves relative to the cylinder.

1 9. (previously presented) The plug of claim 6, with said electrical operator maintaining
2 said distal member within said plug with said distal member extended not beyond said exterior
3 surface while said distal member is in said second position, and maintaining said distal member
4 in engagement with said detent while said distal member is in said first position.

1 10. (previously presented) The plug of claim 6, with said electrical operator maintaining
2 said distal member within said plug with said distal member extending not beyond said exterior
3 surface while said distal member is in said first position.

1 11. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface, said shell bearing a detent extending into said shell;
4 a plug rotatable around said longitudinal axis while resident within said hollow
5 recess, and a bar interposed between said shell and said plug generally along a radial plane
6 engaging both said shell and said plug while obstructing rotation of said plug within said recess,
7 said plug comprising:
8 a first base providing a first electrical conductor;
9 a second base separated by an axial length of said plug from said first
10 base;

11 an exterior surface extending between and engaging said first base and
12 said second base;

13 a locking device responsive to a key inserted into said keyway
14 accommodating relative movement between said shell and said plug when the key while
15 inserted into said keyway engages in a selected relation with said locking device and
16 obstructing said relative movement absent said selected relation;

17 a second electrical conductor terminating with an electrical contact
18 exposed to an exterior of said first base through said orifice;

19 an electronic logic circuit coupled to receive electrical data signals via
20 said first and second electrical conductors, and generating control signals in dependence
21 upon said data signals; and

22 an electrical operator having a distal member moving relative to said
23 detent, in dependence upon said control signals between a first orientation relative to
24 said exterior surface enabling said relative movement and a second and different
25 orientation relative to said exterior surface obstructing said relative movement when said
26 distal member at least partially surrounds said detent.

1 12. (previously presented) The plug of claim 1, further comprised of said:

2 electrical operator comprising an electrical coil coaxially aligned with said distal
3 member, to move said distal member between said second position and said first position in
4 response to said control signals; and

5 said distal member bearing a circumferential surface blocking said relative
6 movement while said distal member is in said second position, and a variation in said
7 circumferential surface accommodating said relative movement while said distal member is in
8 said first position.

1 13. (previously presented) The plug of claim 6, further comprised of said:

2 electrical operator comprising an electrical coil coaxially aligned with said distal
3 member, to move said distal member between said second position and said first position in
4 response to said control signals; and

5 distal member bearing a circumferential surface engaging said detent while said
6 distal member is in said second position, and a variation in said circumferential surface
7 accommodating said relative movement while said distal member is in said first position.

1 14. (previously presented) A lock, comprising:

2 a cylinder containing a hollow interior recess defining a longitudinal axis, and
3 bearing a slot within said recess; and

4 a plug rotatable from a rest orientation around said longitudinal axis while
5 resident within said hollow recess relative to said cylinder; and

6 a stationary detent positioned between said first end and second end while
7 extending into said slot, and providing simultaneous engagement of said cylinder and said plug
8 while said cylinder remains in said rest orientation;

9 said plug comprising:

10 a first base bearing an opening accommodating insertion of a key and
11 providing a first electrical conductor;

12 a second base separated by an axial length of said plug from said first
13 base, said second base disposed to support a cam, said mass being perforated by a an
14 aperture;

15 an exterior surface extending between said first base and said second base;

16 retaining means oriented to retain a shank of a key inserted into said
17 opening while said plug remains in an orientation other than said rest orientation relative
18 to said cylinder, and to accommodate reversal of the key from said opening while said
19 plug is in said rest orientation;

20 a second electrical conductor terminating with an electrical contact
21 exposed to an exterior of said first base through said orifice;

22 an electronic logic circuit comprising a memory storing a code, said
23 circuit being borne by said plug and coupled to receive electrical data signals via said
24 first and second electrical conductors, said circuit generating control signals in
25 dependence upon correspondence between said code and information borne by said data
26 signals; and

27 an electrical operator borne by said plug, said operator having a distal
28 member travelling in dependence upon said control signals between a first position
29 relative to said exterior surface maintaining engagement of said detent and a second and
30 different position relative to said exterior surface accommodating movement between
31 said plug and said cylinder.

1 15. (previously presented) The lock of claim 14, further comprising:

2 said detent being borne by said cylinder; and

3 said distal member being oriented within said plug to move relative to said plug
4 to accommodate rotation of said plug from said rest orientation relative to the cylinder when a
5 key while inserted into said opening generates said data signals representing information having
6 a selected said correspondence with said code, and obstructing said rotation absent said selected
7 correspondence.

1 16. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth
3 extending from said arm and through said slot; and

4 said distal member being oriented within said plug to move relative to said plug
5 to accommodate passage of said tooth relative to said distal member during rotation of said plug
6 from said rest orientation relative to the cylinder when a key while inserted into said opening

7 generates said data signals representing information having a selected said correspondence with
8 said code, and obstructing said rotation of said plug from said rest orientation by engaging said
9 tooth absent said selected correspondence.

1 17. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth
3 extending from said arm and through said slot; and

4 said distal member being oriented within said plug to move relative to said plug
5 to accommodate passage of said tooth relative to said distal member during rotation of said plug
6 from said rest orientation relative to the cylinder when a key while inserted into said opening
7 generates said data signals representing information having a selected said correspondence with
8 said code, obstructing said rotation of said plug from said rest orientation by engaging said tooth
9 absent said selected correspondence, and accommodating passage of said tooth relative to said
10 distal member during rotation of said plug from an orientation other than said rest orientation
11 to said rest orientation.

1 18. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth
3 extending from said arm and through said slot; and

4 said distal member being oriented within said plug to move relative to said plug
5 to accommodate passage of said tooth relative to said distal member during rotation of said plug
6 from said rest orientation relative to the cylinder when a key while inserted into said opening
7 generates said data signals representing information having a selected said correspondence with
8 said code, and obstructing said rotation of said plug from said rest orientation by engaging said
9 tooth absent said selected correspondence when said rotation is in a first direction, and
10 accommodating said rotation of said plug from said rest orientation despite an absence of said
11 selected correspondence when said rotation is in a second and opposite direction.

1 19. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth
3 extending from said arm and through said slot; and

4 said distal member being oriented within said plug in an engagement of said tooth
5 to obstruct said rotation of said plug from said rest orientation, and to move relative to said plug
6 from said engagement of said tooth obstructing said rotation of said plug from said rest
7 orientation to an accommodation of passage of said tooth relative to said distal member during
8 rotation of said plug from said rest orientation relative to the cylinder when a key while inserted
9 into said opening generates said data signals representing information having a selected said
10 correspondence with said code, and continuing said accommodation despite intermittent
11 removal of the key from said opening.

1 20. (previously presented) The lock of claim 14, further comprising:

2 said detent comprising an arm arcuately engaging said cylinder and a tooth
3 extending from said arm and through said slot; and

4 said distal member being oriented within said plug in an engagement of said tooth
5 to obstruct said rotation of said plug from said rest orientation, and to move relative to said plug
6 from said engagement of said tooth obstructing said rotation of said plug from said rest
7 orientation to an accommodation of passage of said tooth relative to said distal member during
8 rotation of said plug from said rest orientation relative to the cylinder when a key while inserted
9 into said keyway generates said data signals representing information having a selected said
10 correspondence with said code, and continuing said accommodation despite intermittent
11 removal of the key from said opening absent subsequent said generation of data signals
12 representing information having said selected correspondence with said code.

1 21. (previously presented) The lock of claim 16, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with
4 said plug and said cylinder, and a second location releasing said plug for rotation relative to the
5 cylinder; and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 distal member comprising an armature travelling in dependence upon said control signals
8 between a third position relative to said exterior surface maintaining said simultaneous
9 engagement and a fourth and different position relative to said exterior surface accommodating
10 said reciprocation.

1 22. (previously presented) The lock of claim 17, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with
4 said plug and said cylinder, and a second location releasing said plug for rotation relative to the
5 cylinder; and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 distal member comprising an armature travelling in dependence upon said control signals
8 between a third position relative to said exterior surface maintaining said simultaneous
9 engagement and a fourth and different position relative to said exterior surface accommodating
10 said reciprocation.

1 23. (previously presented) The lock of claim 18, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with
4 said plug and said cylinder, and a second location releasing said plug for rotation relative to the
5 cylinder; and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 distal member comprising an armature travelling in dependence upon said control signals
8 between a third position relative to said exterior surface maintaining said simultaneous
9 engagement and a fourth and different position relative to said exterior surface accommodating
10 said reciprocation.

1 24. (previously presented) The lock of claim 19, further comprising:

2 a sidebar positioned between said first base and said second base to provide
3 reciprocation between a first location with said sidebar providing simultaneous engagement with
4 said plug and said cylinder, and a second location releasing said plug for rotation relative to the
5 cylinder; and

6 said electrical operator comprising an electrical solenoid borne by said plug, said
7 member comprising an distal armature travelling in dependence upon said control signals
8 between a third position relative to said exterior surface maintaining said simultaneous
9 engagement and a fourth and different position relative to said exterior surface accommodating
10 said reciprocation.

1 25. (previously amended) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a stationary bar borne by said shell and interposed between said shell and said
7 cylinder plug to create an obstruction to rotation of said cylinder plug within said recess;

8 said cylinder plug comprising:

9 a first base and a second base separated by an axial length of said cylinder plug
10 from said first base, said second base configured to support a cam; and

11 an electrical operator borne by said cylinder plug and rotatable with said cylinder
12 plug, said electrical operator being electrically operable to respond to a control signal
13 by moving independently of said bar between one of a first orientation accommodating
14 relative movement between said shell and said cylinder plug and a second and different
15 orientation maintaining obstruction of said relative movement by engaging said bar, and
16 another of said first orientation and said second orientation.

1 26. (previously amended) The lock of claim 25, further comprised of:
2 a logic circuit generating said control signal in response to a comparison between
3 a code set within said logic circuit and a data signal applied to said logic circuit; and
4 said electrical operator moving between said second orientation and said first
5 orientation in response to said control signal.

1 27. (previously amended) The lock of claim 25, further comprised of a key retainer
2 maintaining a shank of a key within said cylinder plug during rotation of said cylinder plug
3 relative to said shell.

1 28. (previously amended) The lock of claim 27, further comprised of a locking
2 mechanism borne by said cylinder plug, said cylinder plug being perforated by an aperture
3 admitting reciprocal travel of a key relative to said locking mechanism, and said locking
4 mechanism obstructing movement of said cylinder plug relative to said shell absent the key
5 exhibiting a selected relation with said locking mechanism.

1 29. (previously amended) The lock of claim 25, further comprised of a plurality of
2 electrical conductors borne by said lock to engage a circuit in a key inserted into said cylinder
3 plug.

1 30. (previously amended) The lock of claim 25, further comprised of a power source to
2 energize said electric operator, positioned to rotate with said cylinder plug relative to said shell.

1 31. (previously amended) The lock of claim 30, further comprised of said power source
2 being mounted on a key.

1 32. (previously amended) The lock of claim 25, further comprised of a network of a
2 plurality of cylinder plugs including said cylinder plug, and a switching device controlling
3 operation of said network.

1 33. (previously amended) The lock of claim 32, with said switching device comprising
2 a logic circuit.

1 34. (previously presented) The lock of claim 1, further comprised of said:
2 electrical operator comprising an electrical coil moving said distal member, to
3 reciprocate said distal member between said first position and said second position in response
4 to said control signals; and
5 said distal member bearing a circumferential surface blocking said radial
6 movement of said sidebar while said distal member is in said second position, and
7 accommodating said radial movement while said distal member is in said first position.

1 35. (previously presented) The lock of claim 6, further comprised of said:
2 electrical operator comprising an electrical coil moving said distal member, to
3 reciprocate said distal member between said first position and said second position in response
4 to said control signals; and
5 said distal member bearing a circumferential surface blocking said radial
6 movement of said sidebar while said distal member is in said second position, and

7 accommodating said radial movement while said distal member is in said first position.

1 36. (previously presented) The lock of claim 16, further comprising said distal member
2 bearing a mass engaging said detent and blocking said rotation while said distal member is in
3 said first position, and a groove through said mass accommodating relative passage between
4 said distal member relative to said detent while said distal member is in said second position.

1 37. (previously presented) The lock of claim 16, further comprising said distal member
2 bearing a mass exhibiting a first height accommodating relative passage between said distal
3 member relative to said detent while said distal member is in said second position, and a second
4 and greater height engaging and blocking said rotation while said distal member is in said first
5 position.

1 38. (previously presented) The lock of claim 16, further comprising said distal member
2 bearing a mass having a periphery engaging said detent and blocking said rotation while said
3 distal member is in said first position, and a central variation in said mass relative to said
4 periphery accommodating relative passage between said distal member and said detent while
said distal member is in said second position.

1 39. (previously amended) The lock of claim 25, further comprising:
2 a logic circuit generating said control signal in response to a comparison between
3 a code set within said logic circuit and a data signal applied to said logic circuit;
4 a conductor provided by said cylinder plug, conveying said data signal to said
5 logic circuit; and
6 said electrical operator moving from said second orientation to said first
7 orientation in response to said control signal.

1 40. (previously amended) The lock of claim 39, with said conductor comprising an
2 electrical conductor.

1 41. (previously amended) The lock of claim 25, further comprising:
2 a logic circuit borne by said cylinder plug, generating said control signal in
3 response to a comparison between a code set within said logic circuit and a data signal applied
4 to said logic circuit;
5 a conductor borne by said cylinder plug, conveying said data signal to said logic
6 circuit; and
7 said electrical operator moving between said second orientation and said first
8 orientation in response to said control signal.

1 42. (previously amended) The lock of claim 41, with said conductor comprising an
2 electrical conductor.

1 43. (withdrawn) A lock, comprising:
2 a cylinder containing a hollow interior recess defining a longitudinal axis, and
3 bearing a slot within said recess; and
4 a cylinder plug rotatable from a rest orientation around said longitudinal axis
5 while resident within said hollow recess relative to said cylinder; and
6 an elongate member positioned between said cylinder and said cylinder plug, and
7 while extending into said slot, preventing rotation between said cylinder and said cylinder plug
8 by making a direct simultaneous engagement of said cylinder and said cylinder plug while said
9 plug remains in said rest orientation and, in response to a torque that is externally applied to
10 said cylinder plug and that causes said rotation of said cylinder plug within said shell, exiting
11 said slot while maintaining a second simultaneous engagement of said cylinder and said cylinder
12 plug that accommodates said rotation;

13 said cylinder plug comprising:

14 a first base bearing an orifice spaced-apart from and separated by a mass
15 of said cylinder plug;

16 a second base separated by an axial length of said cylinder plug from said
17 first base, said second base disposed to support a cam, said mass being penetrated by a
18 radially oriented aperture;

19 an exterior surface extending between said first base and said second base;

20 a conductor having a terminal exposed to an exterior of said first base
21 through said orifice;

22 an electronic logic circuit comprising a memory storing a code, said
23 circuit being borne by said cylinder plug and coupled to receive data signals via said
24 conductor, said circuit generating control signals in dependence upon a comparison
25 between said code and information borne by said data signal;

26 an electrical operator mounted within said aperture, said operator having
27 a movable member traveling in dependence upon said control signals between a first
28 position relative to said exterior surface maintaining said simultaneous engagement by
29 blocking movement of said elongated member from said direct simultaneous engagement
30 and a second and different position relative to said exterior surface accommodating
31 movement between said plug and said cylinder; and

32 a component biasing said movable member to maintain said simultaneous
33 engagement.

1 44. (withdrawn) The lock of claim 43, further comprising:

2 said elongate member comprising a sidebar positioned between said first base and
3 said second base to reciprocate between a first location while providing said simultaneous
4 engagement, and a second location releasing said plug for rotation relative to said cylinder; and
5 said movable member being oriented within said plug to move relative to said

6 plug to accommodate reciprocation of said sidebar relative to said plug and rotation of said plug
7 from said rest orientation relative to the cylinder when a key while inserted into said plug
8 generates said data signals representing information having a selected said comparison with said
9 code, and obstructing said reciprocation absent said selected comparison.

1 45. (withdrawn) The lock of claim 43, further comprising:

2 said elongate member comprising an arm arcuately engaging said cylinder and
3 a detent extending from said arm and through said slot; and

4 said movable member being oriented within said plug to move relative to said
5 plug to accommodate passage of said detent relative to said movable member during rotation
6 of said plug from said rest orientation relative to the cylinder when a key while inserted into
7 said plug generates said data signals representing information having a selected said
8 correspondence with said code, and obstructing said rotation of said plug from said rest
9 orientation by engaging said detent absent said selected correspondence.

1 46. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar borne by said plug and rotatable with said plug relative to said shell, said
7 bar being interposed between said shell and said cylinder plug to reciprocate generally along a
8 radial plane between a first position engaging both said shell and said cylinder plug while
9 obstructing rotation of said cylinder plug within said recess, and a second position
10 accommodating said rotation, said cylinder plug comprising:

11 a first base and a second base separated by an axial length of said plug from said
12 first base, said second base bearing means for supporting a cam; and

13 an electrical operator being electrically operable to respond to an electrical
14 control signal by obstructing movement of said bar between said first position and said second
15 position in response to a first state of said control signal and by moving within a second and
16 different plane not coextensive with said radial plane in response to application of said control
17 signal to accommodate said movement of said bar in response to a second and different state
18 of said control signal.

1 47. (previously presented) The lock of claim 46, further comprised of said operator
2 directly obstructing movement of said bar between said first position and said second position
3 absent said control signal.

1 48. (previously presented) The lock of claim 46, further comprised of:
2 a logic circuit borne by said cylinder plug generating said control signal in
3 response to a comparison between a code set within said logic circuit and a data signal applied
4 to said logic circuit; and
5 said electrical operator moving to accommodate said movement by said bar in
6 response to said control signal.

1 49. (previously presented) The lock of claim 46, further comprised of a locking
2 mechanism borne by said cylinder plug, said cylinder plug being perforated by an aperture
3 admitting reciprocal travel of a key relative to said locking mechanism, and said locking
4 mechanism obstructing movement of said cylinder plug relative to said shell absent the key
5 exhibiting a selected relation with said locking mechanism.

1 50. (previously presented) The lock of claim 46, further comprised of a plurality of
2 electrical conductors borne by said lock to engage a circuit in a key inserted into said cylinder
3 plug.

1 51. (previously presented) The lock of claim 46, further comprised of a power source
2 energizing said electric operator to move during said second and different state of said control
3 signal, positioned to rotate with said cylinder plug relative to said shell.

1 52. (previously presented) The lock of claim 51, further comprised of said plug
2 containing a keyway, and said power source being mounted on a key insertable into said
3 keyway.

1 53. (previously amended) The lock of claim 46, further comprised of a network of plugs
2 including said cylinder plug, and a switching device controlling operation of said network and
3 said state of said control signal.

1 54. (previously presented) The lock of claim 46, further comprised of:
2 said cylinder plug containing a keyway;
3 a memory borne by said cylinder plug and storing a code; and
4 a logic circuit comprising a memory storing a code, said circuit being borne by
5 said cylinder plug and generating said control signal in dependence upon correspondence
6 between said code and data borne by a key insertable within said keyway.

1 55. (previously amended) The lock of claim 25, further comprised of:
2 said cylinder plug containing a keyway;
3 a memory borne by said cylinder plug and storing a code; and
4 a logic circuit comprising a memory storing a code, said circuit being borne by
5 said cylinder plug and generating said control signal in dependence upon correspondence
6 between said code and data borne by a key insertable within said keyway.

1 56. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a plug rotatable around said longitudinal axis while resident within said hollow
5 recess;

6 an elongate member interposed between said shell and said plug to travel
7 generally along a radial direction between a first position where said elongate member obstructs
8 rotation between said shell and said plug by making a direct simultaneous engagement of both
9 said shell and said plug, and in response to a torque that is externally applied to said plug and
10 causes rotation of said plug within said shell, exiting said recess and traveling to a second
11 position while maintaining a second simultaneous engagement of said shell and said plug that
12 accommodates said rotation;

13 said plug comprising:

14 a first base perforated by an aperture, and a second base separated by an
15 axial length of said plug from said first base, said second base bearing means for
16 supporting a cam;

17 a logic circuit borne by said plug and rotatable with said plug, conveying
18 said data signal between said aperture to said logic circuit; and

19 an electrical operator responding to said control signals by moving
20 independently of said travel by said elongate member in a second direction within a
21 plane that maintains said simultaneous engagement but is not aligned with said radial
22 direction between one of a first orientation obstructing said travel and relative operable
23 movement between said shell and said plug while said electrical operator is contained
24 wholly within said plug, and a second and different orientation accommodating said
25 travel and said relative operable movement between said shell and said plug, and another
26 of said first orientation and said second orientation.

Claims 57-63. (Canceled)

1 64. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting
7 a cam;

8 a sidebar interposed between said shell and said cylinder plug to travel generally
9 along a radial plane between a first position engaging both said shell and said plug while
10 obstructing rotation of said cylinder plug within said recess, and a second position
11 accommodating said rotation;

12 a logic circuit generating an electrical control signal in response to a comparison
13 between a code set within said logic circuit and a data signal applied to said logic circuit;

14
15 an electrical conductor provided by said plug, conveying said data signal to said
16 logic circuit; and

17 an electrical operator borne by said cylinder plug and rotatable with said plug,
18 said electrical operator being electrically operable to respond to said control signal by moving
19 in a different plane independently of said travel by said sidebar, between one of a first
20 orientation providing obstruction of said travel and a second and different orientation
21 accommodating said travel, and another of said first orientation and said second orientation;

22 said sidebar having a first portion that is positioned to be optionally blocked by
23 another component of said lock functioning independently of said electrical operator to prevent
24 said travel of said sidebar, and a second portion that is positioned to be blocked from said travel
25 by said sidebar to said second position whenever said electrical operator is within said first
26 orientation, and a second portion that is positioned to be optionally blocked by another
27 component of said lock.

1 65. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting
7 a cam;

8 a bar interposed between said shell and said cylinder plug to travel generally
9 along a radial plane between a first position engaging both said shell and said plug while
10 obstructing rotation of said cylinder plug within said recess, and a second position
11 accommodating said rotation;

12 a logic circuit generating a control signal in response to a comparison between
13 a code set within said logic circuit and a data signal applied to said logic circuit;

14 an electrical conductor provided by said plug, conveying said data signal to said
15 logic circuit; and

16 an electrical operator comprising an armature, said armature being borne by said
17 cylinder plug and rotating around said longitudinal axis with said plug, said electrical operator
18 being electrically operable to respond to said control signal by moving independently of said
19 travel, between one of a first orientation providing obstruction of said travel and a second and
20 different orientation accommodating said travel, and another of said first orientation and said

21 second orientation.

1 66. (previously presented) The lock of claim 65, with said electrical operator further
2 comprising a coil of an electrically conducting material that is borne by said cylinder plug and
3 wound to drive said armature to move from one of said first and second orientations to the other
4 of said first and second orientations in response to said control signal.

1 67. (previously presented) The lock of claim 65, with said electrical operator further
2 comprising a coil of an electrically conducting material that is borne by said cylinder plug and
3 wound to drive said armature to move from said first orientation to said second orientation in
4 response to said control signal.

1 68. (previously presented) The lock of claim 65, with electrical operator further
2 comprising a coil of an electrically conducting material that is borne by said cylinder plug and
3 wound to drive said armature to rotate around an arc in response to said control signal.

1 69. (previously presented) The lock of claim 65, with said electrical operator further
2 comprising a coil of an electrically conducting material that is borne by said cylinder plug and
3 wound to drive said armature to reciprocate along a radial axis that is transverse to said radial
4 plane in response to said control signal.

1 70. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;
4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting

7 a cam;

8 a bar interposed between said shell and said cylinder plug to travel generally
9 along a radial plane between a first position engaging both said shell and said plug while
10 obstructing rotation of said cylinder plug within said recess, and a second position
11 accommodating said rotation;

12 a logic circuit generating said control signal in response to a comparison between
13 a code set within said logical circuit and a data signal applied to said logical circuit;

14 an electrical conductor provided by said plug, conveying said data signal to said
15 logic circuit; and

16 an electrical operator borne by said cylinder plug and rotatable with said plug,
17 said electrical operator being electrically operable to respond to an electrical control signal
18 applied to said electrical operator by moving along a geometrical construct other than to said
19 radial plane between one of a first orientation providing obstruction of said travel and a second
20 and different orientation accommodating said travel, and another of said first orientation and
21 said second orientation.

1 71. (previously amended) The lock of claim 70, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said
3 cylinder plug and wound to drive said armature to move along said geometric construct in
4 response to said control signal.

1 72. (previously amended) The lock of claim 70, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said
3 cylinder plug and wound to drive said armature to move along said geometric construct in
4 response to said control signal from said second orientation to said first orientation.

1 73. (withdrawn) The lock of claim 70, with said geometric construct comprising an arc
2 and said electrical operator further comprising an armature and a coil of an electrically
3 conducting material that is borne by said cylinder plug and wound to drive said armature to
4 rotate around said arc in response to said control signal.

1 74. (previously amended) The lock of claim 70, with said geometric construct
2 comprising a radial axis that is transverse to said radial plane, and said electrical operator
3 further comprising an armature and a coil of an electrically conducting material that is borne
4 by said cylinder plug and wound to drive said armature to reciprocate along said radial axis in
5 response to said control signal.

1 75. (previously presented) A lock, comprising:
2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;
4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting
7 a cam;
8 a bar interposed between said shell and said cylinder plug to travel generally
9 along a radial plane between a first position engaging both said shell and said plug while
10 obstructing rotation of said cylinder plug within said recess, and a second position
11 accommodating said rotation;
12 a logic circuit generating a control signal in response to a comparison between
13 a code set within said logic circuit and a data signal applied to said logic circuit;
14 an electrical conductor provided by said plug, conveying said data signal to said
15 logic circuit; and
16 an electrical operator borne by said cylinder plug and rotatable with said plug,

17 said electrical operator being electrically operable to respond to said control signal by moving
18 along a radial axis that is transverse to said radial plane, between a first orientation providing
19 obstruction of said travel and a second and different orientation accommodating said travel.

1 76. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting
7 a cam;

8 a logic circuit generating said control signal in response to a comparison between
9 a code set within said logic circuit and a data signal applied to said logic circuit;

10 an electrical conductor provided by said plug, conveying said data signal to said
11 logic circuit;

12 an elongate bar exhibiting a greatest longitudinal dimension along a second axis
13 that extends transversely to said first base and to said second base, said bar being interposed
14 between said shell and said cylinder plug to travel generally along a radial axis that is transverse
15 to said second axis, between a first position engaging both said shell and said plug while
16 obstructing rotation of said cylinder plug within said recess, and a second position
17 accommodating said rotation; and

18 an electrical operator borne by said cylinder plug and rotatable with said plug,
19 said electrical operator being electrically operable to respond to said control signal by moving
20 along said radial axis between one of a first orientation providing obstruction of said travel and
21 a second and different orientation accommodating said travel, and another of said first
22 orientation and said second orientation.

1 77. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base and a second base separated by an axial
6 length of said cylinder plug from said first base, said second base bearing means for supporting
7 a cam;

8 a logic circuit generating said control signal in response to a comparison between
9 a code set within said logic circuit and a data signal applied to said logic circuit;

10 an electrical conductor provided by said plug, conveying said data signal to said
11 logic circuit;

12 an elongate bar exhibiting a greatest longitudinal dimension along a second axis
13 that extends transversely to said first base and to said second base, said bar being interposed
14 between said shell and said cylinder plug to travel generally along a radial axis that is radial to
15 said cylinder plug and transverse to said second axis, between a first position engaging both said
16 shell and said plug while obstructing rotation of said cylinder plug within said recess, and a
17 second position accommodating said rotation; and

18 an electrical operator borne by said cylinder plug and rotatable with said plug,
19 said electrical operator being electrically operable to respond to a control signal by moving
20 between one of a first orientation providing obstruction of said travel and a second and different
21 orientation accommodating said travel, and another of said first orientation and said second
22 orientation.

1 78. (previously amended) The lock of claim 25, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said
3 cylinder plug and wound to drive said armature to move from one of said first and second
4 orientations to the other of said first and second orientations in response to said control signal.

1 79. (previously amended) The lock of claim 25, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said
3 cylinder plug and wound to drive said armature to move from said first orientation to said
4 second orientation in response to said control signal.

1 80. (previously amended) The lock of claim 25, with electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said
3 cylinder plug and wound to drive said armature to rotate around an arc in response to said
4 control signal.

1 81. (previously amended) The lock of claim 25, with said electrical operator further
2 comprising an armature and a coil of an electrically conducting material that is borne by said
3 cylinder plug and wound to drive said armature to reciprocate along a radial axis that is
transverse to said radial plane in response to said control signal.

1 82. (previously amended) The lock of claim 25, further comprised of a component
2 biasing said bar to maintain said first position engaging both said shell and said plug.

1 83. (previously amended) The lock of claim 25, further comprised of a component
2 biasing said electrical operator to maintain said second orientation providing obstruction of said
3 bar.

1 84. (previously amended) The lock of claim 25, further comprised of:
2 a first component biasing said bar to maintain said first position engaging both said shell
3 and said plug; and
4 a second component biasing said electrical operator to maintain said second orientation

5 providing obstruction of said bar.

Claims 85-89. (Canceled)

1 90. (previously presented) A process of retrofitting a mechanical cylinder lock to form
2 an electromechanical cylinder lock, the process comprising steps of:

3 providing a mechanical cylinder lock including an outer shell with a bore, a first
4 rotatable barrel located in the bore, and a side bar for preventing and permitting rotation of the
5 barrel within the bore in the shell;

6 removing the first barrel from the shell;

7 providing an electronically powered rotatable barrel having an exterior adapted to
8 substantially correspond to the bore in the shell, and including:

9 at least one electromechanical locking member disposed in the barrel, the
10 electromechanical locking member being positionable to permit the side bar to engage the
11 locking member in a non-barrel blocking position which permits the barrel to rotate with respect
12 to the shell, and the electromechanical locking member also being positionable in a barrel
13 blocking position which blocks rotation of the barrel with respect to the shell; and

14 an electronically powered drive mechanism cooperating with the electromechanical
15 locking member to selectively move the locking member from the barrel blocking position to
16 the non-barrel blocking position in which the side bar engages the locking member to rotate the
17 barrel and operate the lock; and

18 securing the electronically powered rotatable barrel in the bore in the shell to form an
19 electromechanical cylinder lock, the lock including control means carried by at least one of the

20 barrel and bore for energizing the electronically powered drive mechanism in response to an
21 authorized attempt to open the lock.

1 91. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess, said cylinder plug comprising a first base perforated by a keyway and a second
6 base separated by an axial length of said cylinder plug from said first base, said second base
7 disposed to support a cam;

8 a bar interposed between said shell and said cylinder plug to reciprocate generally
9 along a radial plane between a first position engaging both said shell and said plug while
10 obstructing rotation of said cylinder plug within said recess, and a second position
11 accommodating said rotation when a torque is externally applied to said keyway to rotate said
12 cylinder plug within said shell;

13 a locking mechanism borne by and rotating with said cylinder plug, said locking
14 mechanism being interposed between said cylinder plug and said bar, and exhibiting a first
15 disposition hindering said reciprocation and, in response to insertion of a key in physical
16 conformance to said locking mechanism, exhibiting a second and different disposition
17 accommodating said reciprocation; and

18 an electrical operator borne by said cylinder plug and rotatable with said cylinder
19 plug, said electrical operator being electrically operable to respond to a control signal by moving
20 independently of said bar between a first orientation providing obstruction of said reciprocation
21 by said bar and a second and different orientation removing said obstruction.

1 92. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior

3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar interposed between said shell and said cylinder plug to extend generally
7 along a radial plane between a first state engaging both said shell and said plug while
8 obstructing rotation of said cylinder plug within said recess, and a second state accommodating
9 said rotation;

10 said cylinder plug comprising:

11 a first base and a second base separated by an axial length of said cylinder plug
12 from said first base, said second base configured to support a cam; and

13 an electrical operator comprising an armature borne by said cylinder plug and
14 rotatable with said cylinder plug, said electrical operator being electrically operable to
15 respond to a control signal by moving said armature independently of said bar, between
16 one of a first orientation providing obstruction of said rotation during said first state and
17 a second orientation accommodating independent relative movement between said bar
18 and said cylinder plug, and another of said first orientation and said second orientation.

1 93. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said
3 control signal; and

4 said armature comprising an exterior surface exhibiting a rest position between
5 said shell and said cylinder plug, said armature obstructing said rotation absent said conduction,
6 accommodating said rotation during said conduction, and accommodating said rotation until
7 said rotation returns said armature to said rest position after termination of said conduction.

1 94. (withdrawn) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said
3 control signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said
5 exterior surface extending between said shell and said cylinder plug while said cylinder plug
6 is in alignment with said shell in a locked condition, said armature obstructing said rotation
7 absent said conduction, accommodating said rotation during said conduction by withdrawing
8 from said shell and wholly into said cylinder plug, accommodating said rotation until said
9 rotation returns said armature to said rest position after termination of said conduction, and
10 resuming said rest position when said rotation restores said alignment.

1 95. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said
3 control signal; and

4 said armature comprising an exterior surface exhibiting a rest position between
5 said bar and said cylinder plug, said armature obstructing said rotation absent said conduction,
6 said armature accommodating said rotation during said conduction, and said armature
7 accommodating said rotation until said rotation returns said armature to said rest position after
8 termination of said conduction.

1 96. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said
3 control signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said
5 first orientation while said exterior surface is interposed between said bar and said cylinder plug
6 and obstructs said rotation absent said conduction, said armature assuming said second
7 orientation, withdrawing from said interposition and accommodating said rotation during said

8 conduction, and said armature accommodating said rotation until said rotation returns said
9 armature to said rest position with said first orientation after termination of said conduction.

1 97. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said
3 control signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said
5 first orientation while said exterior surface is interposed between said bar and said cylinder plug
6 and obstructs said rotation absent said conduction, said armature assuming said second
7 orientation, withdrawing from said interposition and accommodating said rotation during said
8 conduction, and said armature maintaining said second orientation and accommodating said
9 rotation after said rotation returns said armature to said rest position after termination of said
10 conduction.

1 98. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said
3 control signal; and

4 said armature comprising an exterior surface exhibiting a rest position with said
5 first orientation while said exterior surface is interposed between said bar and said cylinder plug
6 and obstructs said rotation absent said conduction, said armature assuming said second
7 orientation, withdrawing from said interposition and accommodating said rotation during said
8 conduction, said armature maintaining said second orientation and accommodating said rotation
9 after said rotation returns said armature to said rest position after termination of said
10 conduction, and said armature resuming said first orientation during renewal of said conduction
11 subsequent to said termination.

1 99. (previously presented) The lock of claim 92, further comprised of:

2 a coil wound to provide conduction of an electrical current in response to said
3 control signal; and

4 said armature comprising an exterior surface exhibiting a rest position while in
5 said first orientation absent said conduction with a first thickness of said exterior surface
6 interposed between said bar and said cylinder plug and with said cylinder plug in alignment with
7 said shell in a locked position, said armature exhibiting said second orientation and
8 accommodating said rotation during said conduction with a second and lesser thickness of said
9 exterior surface permitting movement of said bar relative to said cylinder plug, and said
10 armature accommodating said rotation until said rotation allows said bar to reverse said relative
11 movement and said armature to return to said rest position after termination of said conduction.

1 100. (previously presented) The lock of claim 92, further comprised of:

2 a logic circuit borne by said cylinder plug, generating said control signal in
3 response to a comparison between a code set within said logic circuit and a data signal applied
4 to said logic circuit; and

5 said electrical operator moving between said second orientation and said first
6 orientation in response to said control signal.

Claims 101-104. (Canceled)

1 105. (previously presented) The process of claim 90, further comprising:

2 orienting said side bar to travel along a plane that extends approximately radially

3 relative to said electronically powered rotatable barrel when engaging said locking member; and
4 positioning said locking member to move on an axis that is approximately
5 perpendicular to said plane when said locking member is selectively moved from said barrel
6 blocking position to said non-barrel blocking position.

1 106. (previously presented) The lock of claim 14, further comprising said bar engaging
2 both said shell and said plug during said movement between said plug and said cylinder.

1 107. (previously amended) The lock of claim 25, further comprising said bar engaging
2 both said shell and said cylinder plug during said rotation.

1 108. (previously presented) The lock of claim 46, further comprising said bar engaging
2 both said shell and said cylinder plug during said rotation.

1 109. (previously presented) The lock of claim 64, further comprising said sidebar
2 engaging both said shell and said cylinder plug during said rotation.

1 110. (previously amended) The lock of claim 65, further comprising said bar engaging
2 both said shell and said cylinder plug during said rotation.

1 111. (previously presented) The lock of claim 70, further comprising said bar engaging
2 both said shell and said cylinder plug during said rotation.

1 112. (previously presented) The lock of claim 75, further comprising said bar engaging
2 both said shell and said cylinder plug during said rotation.

1 113. (previously presented) The lock of claim 76, further comprising said bar engaging

2 both said shell and said cylinder plug during said rotation.

1 114. (previously presented) The lock of claim 77, further comprising said bar engaging
2 both said shell and said cylinder plug during said rotation.

1 115. (previously presented) The lock of claim 85, further comprising said side bar
2 engaging both said shell and said barrel during said rotation.

1 116. (previously presented) The lock of claim 91, further comprising said bar engaging
2 both said shell and said cylinder plug during said rotation.

Claims 117-118. (Canceled)

1 119. (previously presented) The lock cylinder of claim 85, in which said side bar moves
2 out of the cavity and engages the locking member to rotate the barrel and operate the lock.

1 120. (previously presented) A rotatable lock barrel for insertion into a lock cylinder
2 having a bore formed therein, the barrel comprising:

3 an elongated, generally cylindrically shaped barrel member having an exterior configured
4 for receipt in a bore of a lock cylinder and an interior containing a plurality of electromechanical
5 locking members, the barrel member having a recess formed therein;

6 wherein the locking members are disposed in the recess of the barrel member and are
7 substantially entirely contained within the barrel member, each of the locking members
8 including a groove and the locking members being movable to a position in which the grooves
9 of the locking members are aligned;

10 the recess in said barrel member being configured to receive at least a portion of a
11 movable side bar of a lock cylinder to permit the side bar to move into and out of engagement
12 with the grooves of the locking members for selectively permitting and blocking rotation of the
13 barrel member with respect to a lock cylinder when positioned therein;

14 an electronically powered drive mechanism located within the barrel member for moving
15 the electromechanical locking members to a position in which the grooves of the locking
16 members are aligned.

1 121. (previously presented) A lock, comprising:

2 a shell containing a hollow recess defining a longitudinal axis and an interior
3 cylindrical surface;

4 a cylinder plug rotatable around said longitudinal axis while resident within said
5 hollow recess;

6 a bar interposed between said shell and said cylinder plug detent extending
7 radially from a second recess within said shell into a passage within said cylinder plug to create
8 an obstruction to rotation of said cylinder plug within said hollow recess;

9 said cylinder plug comprising:

10 a first base and a second base separated by an axial length of said cylinder plug
11 from said first base, said second base configured to support a cam; and

12 an electrical operator borne by said cylinder plug and rotatable with said cylinder
13 plug, said electrical operator being electrically operable to respond to a control signal
14 by moving independently of said detent between one of a first orientation
15 accommodating relative movement between said detent and said cylinder plug and a
16 second and different orientation maintaining obstruction of said relative movement by
17 engaging said detent, and another of said first orientation and said second orientation.